

Patent Claims

1. Vehicle headlight with housing, with multiple LEDs assembled into an array, which are provided on a carrier, and with at least one optical element, thereby characterized, that multiple LEDs are in the form of LED-chips, of which the array is designed to be asymmetric, wherein these LED-chips are integrated with a lens acting as common collection lens into a LED-module.
2. Vehicle headlight according to Claim 1, thereby characterized, that the LED-chips are provided in the region of the focal plane of the lens.
3. Vehicle headlight according to Claim 1 or 2, thereby characterized, that the vertical angle of beam spread ϕ of the headlight is less than 5° and the horizontal angle of beam spread ϕ of the vehicle headlight lies in the range of less than 20° .
4. Vehicle headlight according to one of the preceding Claims, thereby characterized, that an optically transparent material is cast into the LED-module.
5. Vehicle headlight according to one of the preceding Claims, thereby characterized, that the LED-chips are hard wired together and this hard wiring or hard circuitry is joined or bound to the carrier.
6. Vehicle headlight according to one of the preceding Claims, thereby characterized, that LED-chips are

arranged in a LED-module corresponding to a hexagonal, quadratic or square pattern.

7. Vehicle headlight according to one of the preceding Claims, thereby characterized, that the asymmetric array is formed by what would be a symmetric array through the provision of at least one area of non-functional or missing LED-chips.
8. Vehicle headlight according to one of the preceding Claims, thereby characterized, that the asymmetric array exhibits a design corresponding to an asymmetric distribution of the vehicle headlight beam.
9. Vehicle headlight according to one of the preceding Claims, thereby characterized, that the LED-chip of the LED-module emits exclusively IR radiation or IR radiation with visible light or exclusively visible light.
10. Vehicle headlight according to one of the preceding Claims, thereby characterized, that a part of the LED-chip was provided with only IR emitting and another part with visible light emitting LEDs, and these LEDs are in particular preferably arranged alternating in the asymmetric ray.
11. Vehicle headlight according to one of the preceding Claims 1 through 9, thereby characterized, that a part of the LED-chip emits only IR radiation and another part only visible light, and the one part was separated from the other part in an asymmetric array.

12. Vehicle headlight according to one of the preceding Claims, thereby characterized, that multiple LED-modules are provided, which are arranged in one plane and, in particular, contact each other.
13. Vehicle headlight according to one of the preceding Claims 1 through 11, thereby characterized, that multiple LED-modules are provided, which corresponding to the course of a curved vehicle surface, and in particular contact each other.
14. Vehicle headlight according to Claim 12 or 13, thereby characterized, that the LED-modules are releasably connected with each other.
15. Vehicle headlight according to one of the preceding Claims 12 through 14, thereby characterized, that the LED-modules are provided upon a common carrier which in particular is designed or has circuitry which is vehicle-specific.
16. Vehicle headlight according to one of the preceding Claims, thereby characterized, that multiple LED-modules are associated with a common supplemental optical element, which cooperates collectively with the lenses of each module.
17. Vehicle headlight according to one of the preceding Claims, thereby characterized, that LED-chips are laser diodes or laser diodes with vertical resonators.